

Future FAA Telecommunications

Presented to: ICNS

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Federal Aviation
Administration

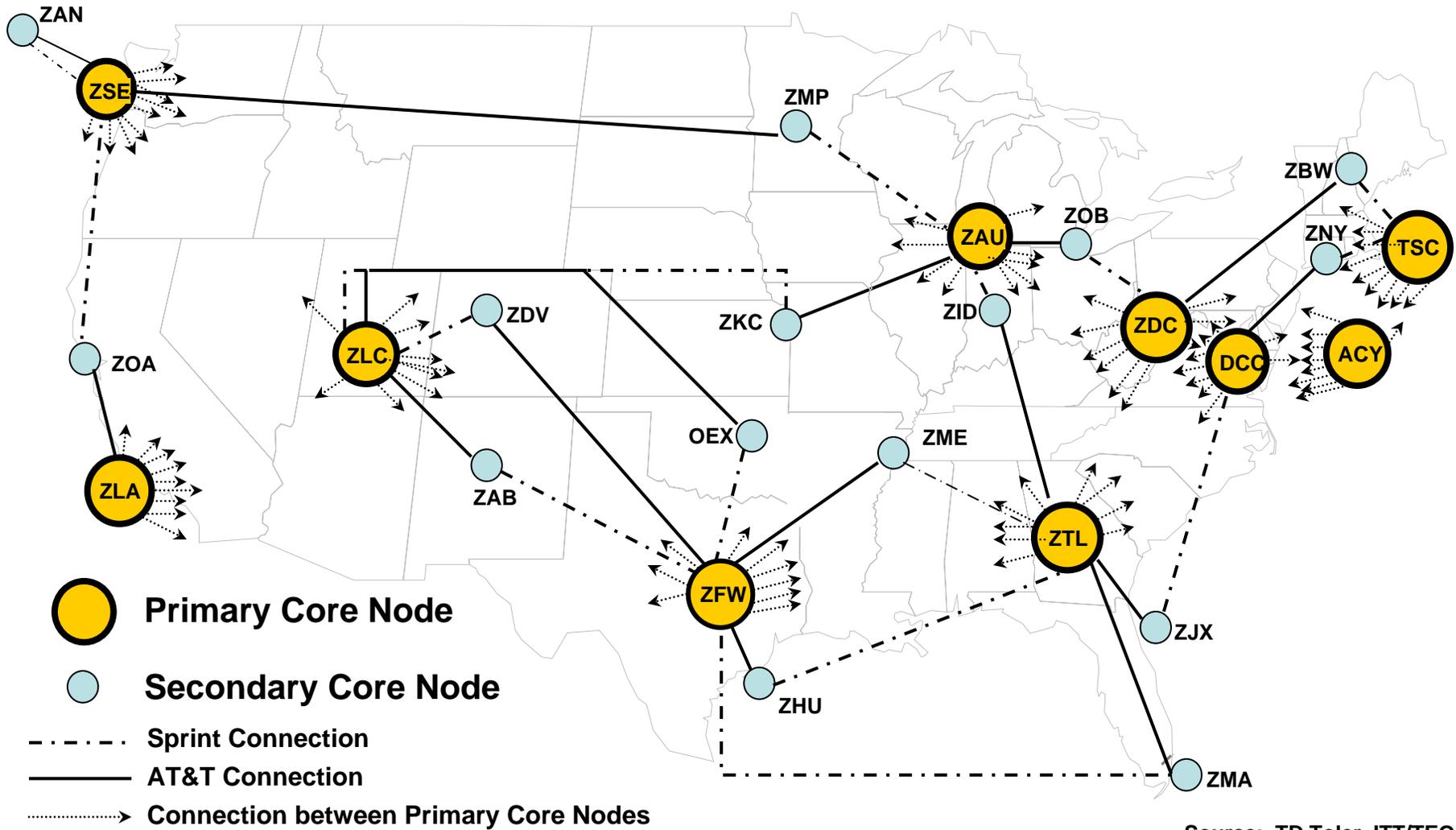


FTI Overview

- **Primarily digital network**
 - Air/Ground voice tail circuits still analog
 - Asymmetric (analog/digital) interfaces
- **Variety of security measures**
 - Internal users
 - Secure gateways for external users
- **Increasing IP Networks**
- **Fiber/ATM backbone**

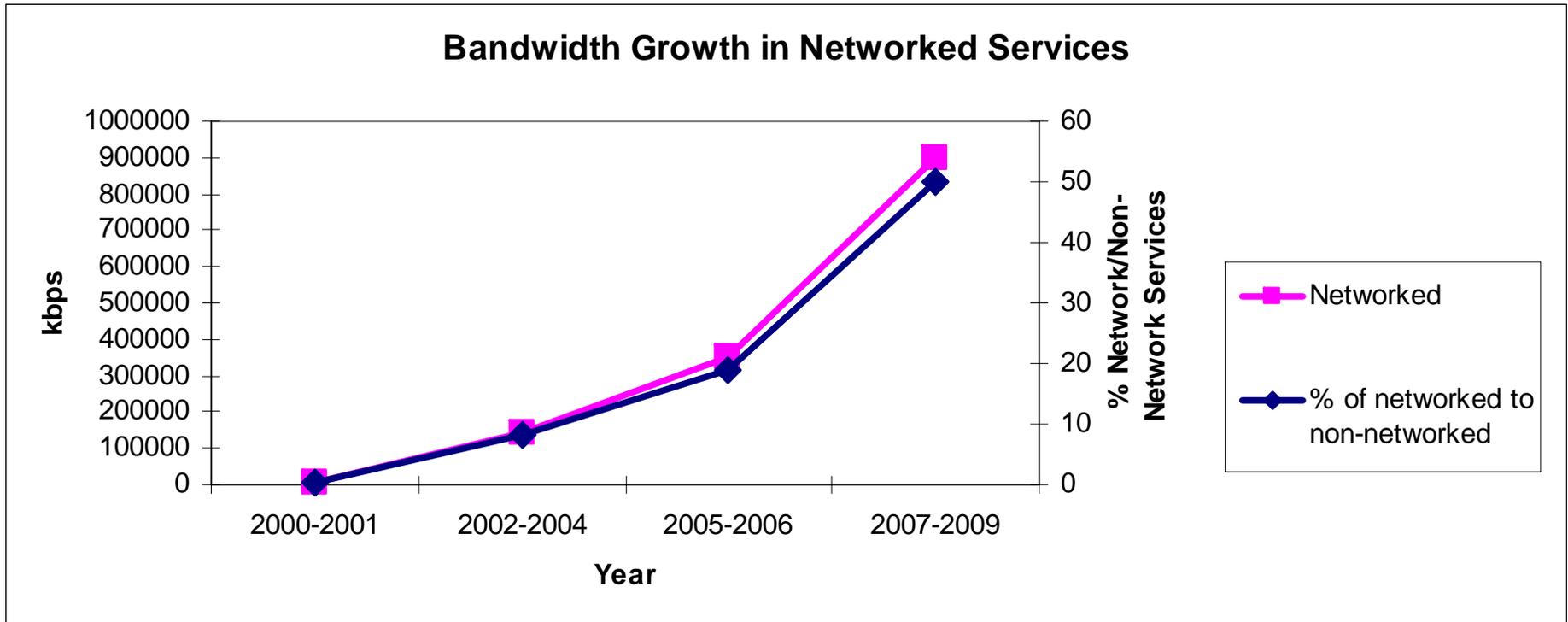


FTI ATM Backbone



Source: TD Toler, ITT/TEOM

Transition to IP Data Networks



FTI Overview Continued

- **Transition to FTI**
 - 65% complete in 2QFY07
 - Completion in 2008
- **Provides services, not circuits**
 - Telecommunications Project Plan, TPP
 - Developed with Users
 - Provides cost estimate before implementation
 - Voice and Data service classes defined

FTI Service Classes (Examples)

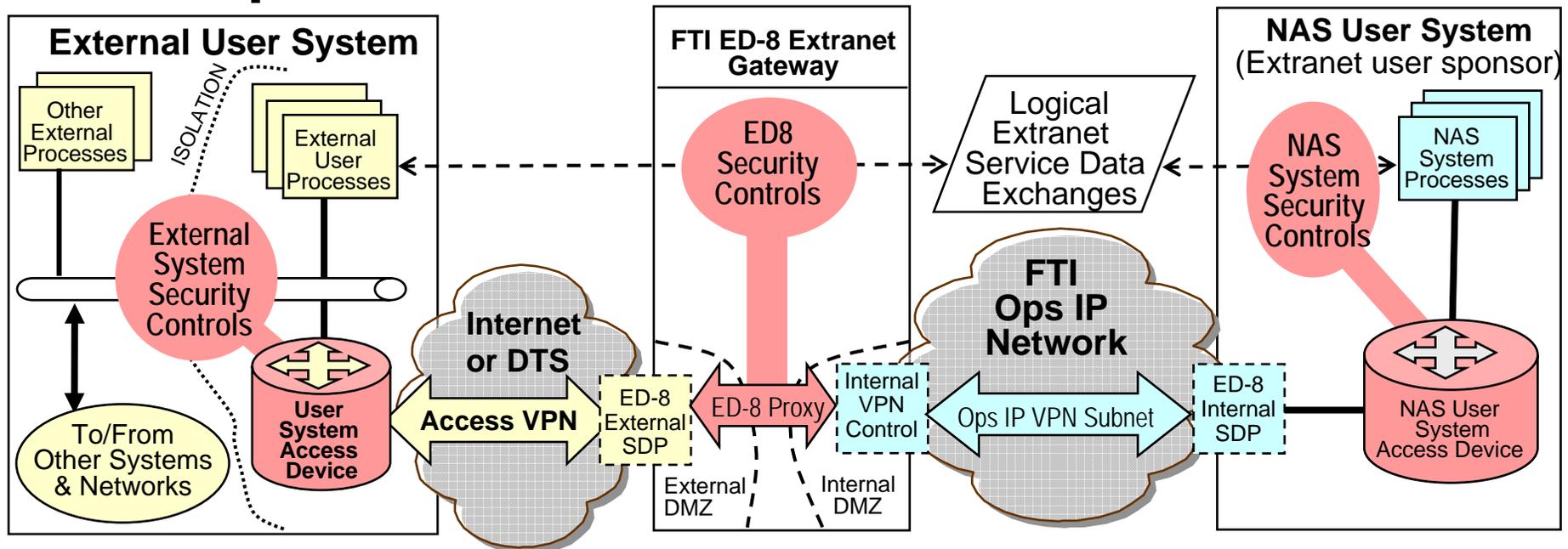
Service Class	RMA	Latency Level	Basic Security Level	Call Setup Time	In-Band Signaling	Note	Voice Quality	Interface Type
1	RMA2	LL-1	BV1	CSL-1	CBL-1		VQ-1	VG-6/VG-8
2	RMA3	LL-1	BV1	CSL-3	CBL-3		VQ-1	VG-6
3	RMA4	LL-1	BV1	CSL-1	CBL-1		VQ-1	VG-6
4	RMA4	LL-1	BV1	CSL-1	CBL-1		VQ-1	VG-6/VG-8
5	Reserved							
74	RMA3	LL-3	BD1	NA	NA		NA	VG ETHERNET ISDN-PRI
75	RMA4	LL-3	BD1	NA	NA		VQ-2	ETHERNET FDDI DDC

Note – Call Blocking Limit and In-Band Signaling Compatibility not shown for voice.



FTI External User Gateway

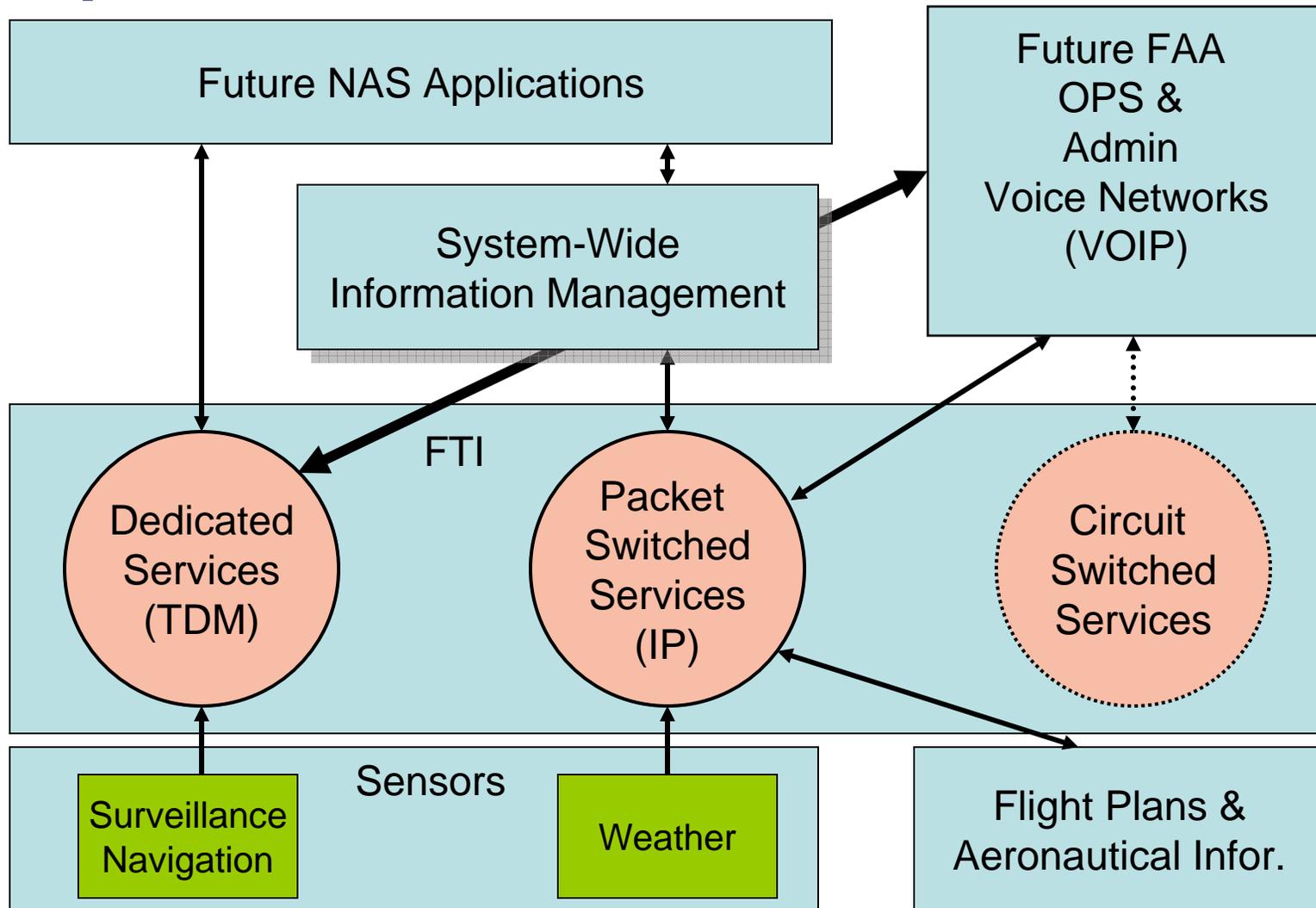
- Provides capability to connect user from diverse security domains
- Users via untrusted environments such as the public internet



FTI Transmission Services

- **Dedicated Services (TDM)**
 - Used to meet low latency & high security requirements
 - Surveillance, navigation and ATC Voice
- **Switched Packet Services (IP Network)**
 - Provides great flexibility and bandwidth efficiency
 - In the future may be used to provide VOIP
- **Switched Circuit Services**
 - Standard commercial method for voice transmission
 - Currently used for admin voice (FTS-2001)
 - In the future may be used for operational voice

Simplified Future Telecommunications



System-Wide Information Management

- **SWIM is an architecture for efficiently sharing information among NAS systems.**
- **SWIM will enable the efficient sharing of data by:**
 - SWIM will advertise data availability
 - Making data accessible
- **When implemented, SWIM will consist of servers that provide Gateway functions and access to core and value-added services**

Key Governance Functions

- **Standards** – Develop enterprise wide standards aimed at ensuring current performance, efficiency/cost effectiveness, interoperability/net-centricity, and future adaptability
- **Policies** – Develop and enforce rules around introducing, changing, and removing enterprise components
- **Processes** – Develop and facilitate processes to support the execution of policies
- **Common Infrastructure** – Provide and/or manage needed infrastructure not associated currently with either telecommunications or end user application programs
- **Examples of key items required within each function**

Common Infrastructure	Standards	Polices	Process
DNS	Addressing Plan	BW utilization	Design review
IAP	Routing Plan	NAS Prioritization	CM and change
Security G/W	Protocols	QoS	Maintenance/Monitoring
Network Management	Interface	Security	Issues resolution
	Delivery options (e.g. Multicast)	Technology	
	Operating Systems	Non-FAA	
	Timers		

And Over the Horizon...

- **IPV6**
- **Satellite**
- **Mobile IP**
- **Compressed Voice**

